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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,174	10/09/2003	Terry Bruceman Hilleman	P05857US01	7308

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DES MOINES, IA 50309-2721

EXAMINER	
WRIGHT, ANDREW D	

ART UNIT	PAPER NUMBER
3617	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/682,174	HILLEMAN, TERRY BRUCEMAN	
	Examiner	Art Unit	
	Andrew Wright	3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mello (US 2,961,987). Regarding claim 1, Mello discloses a ship with a hydrofoil (1) with perforations that form passages from the pressure side to the suction side. Therefore, the step of providing perforations is inherent in the making of the hydrofoil. The hydrofoil is attached to ship and Mello discloses maneuvering the ship. Therefore the step of maneuvering the ship through water is disclosed.

3. Regarding claim 8, Mello discloses a ship with a hydrofoil (1) with a main body. Perforations (2) form passages from the pressure side to the suction side of the main body. Therefore, the step of providing perforations is inherent in the making of the hydrofoil. The hydrofoil is attached to ship and Mello discloses maneuvering the ship. Therefore the step of maneuvering the ship through water is disclosed.

4. Claims 2, 3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Wappich (US 59,296). Wappich shows a rudder that constitutes a hydrofoil. Figures 2 and 3 shows a main body (A) with a leading edge (B) and a trailing edge (B). Both the trailing edge and leading edge are provided with surface texture in the form of longitudinal grooves.

5. Claims 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Pusterla (US 5,638,766). Pusterla shows a hydrofoil with a main body (63). The main body has a rounded leading edge and a rounded trailing edge. Pusterla teaches that the bottom surface may be provided with dimples (66) (see figure 7 and line 45 of column 3). The bottom surface extends from the leading edge to the trailing edge. Therefore the trailing edge has surface texturing in the form of dimples.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pusterla (US 5,638,766) in view of Johnson, III (US 5,167,552) and O'Hara (US 632,738). Pusterla shows a hydrofoil with dimples at the trailing edge. Pusterla does not show shingles or scales. Pusterla does suggest that things other than dimples (e.g. grooves) may be employed. Johnson, III teaches the equivalence of dimples (figure 9) and shingles or scales (figures 3-7). O'Hara shows a wetted surface of a ship with surface texturing that constitutes both shingles and scales. Therefore based upon the teaching of equivalence by Johnson, III it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pusterla by using the shingles (A) shown by O'Hara. The motivation would be to optimize the

hydrodynamic characteristics of the hydrofoil by employing particular surface texturing that is known in the art.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Seely shows a hydrofoil with longitudinal grooves. Possenheim shows a hydrofoil with grooves. Krans shows a hydrofoil with passages that extend from one side to the other. Walsh et al. shows a foil with longitudinal grooves. Slemmons shows a foil with longitudinal grooves. Blood shows a hydrofoil with dimples.

9. Any inquiry concerning this communication should be directed to examiner Andrew D. Wright at telephone number (703) 308-6841. The examiner can normally be reached Monday-Friday from 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano, can be reached at (703) 308-0230. The fax number for official communications is 703-872-9306. The fax number directly to the examiner for unofficial communications is 703-746-3548.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1113.

Andrew D. Wright
Patent Examiner
Art Unit 3617

2/23/04